

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant(s): KASMIRSKY, Yehoshapat, et al. Examiner: LE, Thu, N.T.
Serial No.: 10/766,851 Group Art Unit: 2162
Filed: January 30, 2004
Title: **CONTENT-BASED STORAGE MANAGEMENT**

APPEAL BRIEF REVISIONS

Mail Stop **Appeal Brief – Patents**
Board of Patent Appeals and Interferences
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

These appeal brief revisions are being filed in response to the Notification of Non-Compliant Appeal Brief, mailed August 19, 2009 by the United States Patent and Trademark Office in connection with the above-identified appeal. A response to the August 19, 2009 Notification is due September 19, 2009. Accordingly, these appeal brief revisions are being timely filed.

The Notification stated that a new appeal brief is not required, only the defective sections. Accordingly, the revised sections are the following:

A statement of the **status of claims** (Section III) follows on page **2** of this paper.

A **summary of claimed subject matter** (Section V) follows on page **3** of this paper.

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III. Status of claims

Claims 1-3, 5, 6, 8-12, 15-29, 34-39, and 43-60 are pending in the application.

Claims 4, 7, 13, 14, 30-33, and 40-42 have been cancelled.

All pending claims have been rejected.

All pending claims are being appealed.

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V. Summary of claimed subject matter

Storage facilities for digital information are a critical resource. The demand for storage space for both conventional data, such as text documents and other human readable files, and multimedia streams, such as audio and/or video data, has increased significantly for a number of reasons, including legal requirements to store and maintain certain types of information, and an increase in the different types of data which are being stored. This increased demand has in turn resulted in a higher demand for storage space, including on-line (e.g., direct-access, permanently mounted) storage. As the demand for on-line storage space increases, a number of options are possible to fulfill that demand. While additional hardware, such as magnetic media devices ("hard disk drives"), may be purchased to increase the available storage, as the quantity of such hardware devices increases, the management problem for electronic management of these devices also increases.

The disclosure of the present application generally relates to a system and method for automatic data management, for example, management of security and/or customer management audio/video data, according to the content of the data. Embodiments of the invention enable data to be stored automatically in one of a plurality of different storage options according to at least one characteristic of the data, where the at least one characteristic is based on an analysis of the content of the data.

The present invention provides a system and a method for data management according to the content of the data. In particular, the system and method of the present invention provide for automatic analysis of the content of data, e.g., video content data, selection of a suitable one of a plurality of storage options for the data based on the characteristic, and storage of the data on the selected storage option. This enables data to be stored in any one of a plurality of different storage options, having different capacity, accessibility and reliability to the user. Thus, data content determines the characteristic, on which the indexing metadata is based, on which the storage selection is ultimately made. Schematically, this may be depicted as a chain of functions, where the outcome of each step is determined based on the previous step:

data content → characteristic → content metadata → storage selection → data storage

Pending Claim 1

A. Claim 1, 27, and 43

The method of claim 1 is explained throughout the specification, and in particular, in connection with the flowchart of Fig. 5 depicting a method for managing data storage. Initially, a stream of audio or video data related to a communication over a communication network is received (para. [0071], block 501). Then, the content of the audio or video data is automatically analyzed to determine at least one characteristic of the audio or video content of the received stream (para. [0071], block 504). Next, based on the content analysis of the audio or video data, metadata associated with the at least one characteristic is generated (para. [0071], block 504). According to the generated metadata pertaining to the at least one characteristic, and according to at least one rule, one of a plurality of storage options having different types of accessibility and/or capacity is selected (para. [0072], blocks 506, 507). Finally, the data is placed into the selected storage option (para. [0072], block 508).

The system of claim 27 is explained throughout the specification, and in particular, in connection with the system diagrams of Figs. 1 and 3. The disclosed system is for data management according to content of the data (para. [0018], [0022]), comprising: an input source (12, 52) to deliver a stream of audio or video data related to a communication over a communication network (para. [0030], [0049]); an analysis module (18, 82) for analyzing the content of the data to determine at least one characteristic of the audio or video content of the delivered data stream and to generate based on said content analysis of the audio or video data metadata associated with the at least one characteristic (para. [0033]-[0035], [0050]-[0052]); a rule engine (20, 84) to compare at least a portion of the generated metadata to at least one rule and to select one of a plurality of storage options based on said comparison (para. [0037]-[0038], [0055]-[0056]); a storage manager (22, 86) for receiving a decision related to the selected storage option from said rule engine (para. [0044], [0057]); and a plurality of storage devices (26, 88) having different types of accessibility and/or capacity,

wherein said storage manager stores the data in one of said plurality of storage devices according to said decision (para. [0021], [0044], [0057]).

The system of claim 43 is explained throughout the specification, and in particular, in connection with the system diagrams of Figs. 1 and 3. The disclosed system is for data management according to metadata (para. [0018], [0022]), comprising: an input source (12, 52) to deliver a stream of audio or video data related to a communication over a communication network (para. [0030], [0049]); an analysis module (18, 82) for analyzing the content of the data to determine at least one characteristic of the audio or video content of the delivered data stream and to generate based on said content analysis of the audio or video data metadata associated with the at least one characteristic (para. [0033]-[0035], [0050]-[0052]); a rule engine (20, 84) to compare at least a portion of the generated metadata to at least one rule and to select one of a plurality of storage options based on said comparison (para. [0037]-[0038], [0055]-[0056]); a storage manager (22, 86) for receiving a decision related to the selected storage option from said rule engine (para. [0044], [0057]); and a plurality of storage devices (26, 88) having different types of accessibility and/or capacity, wherein said storage manager stores the data in one of said plurality of storage devices according to said decision (para. [0021], [0044], [0057]).

B. Claims 47, 51, and 55

Claim 47 further recites that the step of automatically analyzing the content of the video data comprises analyzing the content of at least one frame of said received stream of video data. Claims 51 and 55 recite systems for data management, wherein the analysis module is to analyze the content of the video data by analyzing the content of at least one frame of said delivered stream of video data (e.g., Fig. 3, block 76). An explanation of these claims may be found, for example, at paragraph [0052] of the application:

[0052] Video analysis may optionally be performed by video analyzer 76 as follows. Video data is obtained, for example from a camera as a non-limiting example of video source 54. A frame-grabber is then preferably used to obtain at least one frame from the video data. The frame is preferably analyzed. . .

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C. Claims 48, 52, and 56

Claims 48, 52, and 56 recite that the characteristic of the content on which the storage decision is based is human presence, and that analyzing the content of at least one frame comprises determining the presence of a human subject in the frame (e.g., Fig. 3, block 76). An explanation of these claims may be found, for example, at paragraph [0052] of the application:

[0052] . . . [I]f a video camera is used to monitor the entrance to a secure area, then optionally only those frames, or alternatively those portions of each frame, which feature a human subject near the actual entrance are of interest.

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Accordingly, defective sections of the appeal brief have been remedied, and the appeal brief is now proper. Applicants assert that above rejections are improper, and request that the Board reverse the rejections and allow all pending claims.

Respectfully submitted,

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